



INVESTOR IN PEOPLE

Application No: GB 0222905.2  
Claims searched: 1-16

Examiner: Philip Silvie  
Date of search: 5 December 2002

## Patents Act 1977 : Search Report under Section 17

### Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance	
X	1,3-5,13	GB 0 584 312 A	(BENNETT) see fig. 2
X	1-5	US 4 911 312 A	(CHRYSLER) see fig. 2
X	1-5	US 4 765 420 A	(MENGO) see fig. 3
X	1,2,7	US 5 868 446 A	(NEW LINE) see fig. 3

### Categories:

X Document indicating lack of novelty or inventive step	A Document indicating technological background and/or state of the art.
Y Document indicating lack of inventive step if combined with one or more other documents of same category.	P Document published on or after the declared priority date but before the filing date of this invention.
& Member of the same patent family	E Patent document published on or after, but with priority date earlier than, the filing date of this application.

### Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKCT:

E2A

Worldwide search of patent documents classified in the following areas of the IPC<sup>7</sup>:

E05B; F16F; G01G

The following online and other databases have been used in the preparation of this search report:

WPI, EPODOC, JAPIO



RESERVE

PATENT SPECIFICATION 584,312



Application Date: April 4, 1944. No. 6273/44.

Complete Specification Left: April 4, 1945.

Complete Specification Accepted: Jan. 13, 1947.

PROVISIONAL SPECIFICATION

Improved Means for Absorbing Shocks in Wire Ropes or Cables

We, ALFRED PERCY MAYSON BENNETT, of 306, Latymer Court, London, W.6, British Subject, and JOHN MOWLENE & COMPANY LIMITED, a company incorporated 5 under the laws of Great Britain, of 91, Ebury Bridge Road, London, S.W.1, do hereby declare the nature of this invention to be as follows:—

This invention relates to means for 10 taking up shocks in the wire ropes or cables of excavating, hoisting or other like machines in order to lengthen the life of the ropes or cables by safeguarding them against the detrimental effects of such 15 shocks.

The invention has particular reference to resilient shock absorbing or "snatch relieving" devices of the kind adapted to be inserted in the length of the rope or 20 cable either at one end thereof or at some intermediate point in the length.

The invention consists in a shock-absorbing device of the kind referred to comprising a block of rubber or rubber 25 composition directly bonded to steel or other metal eyes, sockets, or other fittings by which it may be secured to the rope or cable, or to the rope or cable and part to be operated thereby.

30 In carrying our invention into effect in one convenient manner we take a block of rubber or rubber composition of any suitable length and of circular, rectangular, or other suitable shape in cross section and

this we bond to a metal socket at one end 35 to which the wire rope or cable to be protected against shock is anchored in any suitable manner. The other end of the block is directly bonded to an eye or other fitting which may be directly or indirectly 40 (for example, through a further length of rope or cable) connected to the cage, shovel, or other part to be operated by the rope or cable. The block may be of the same cross-sectional area throughout its 45 length or the cross-sectional area may vary as, for example, the smallest cross-sectional area may be at the middle of the length of the block and the area may gradually increase from this point towards each end. 50 The device may be inserted in the rope or cable system so that any shocks therein may be taken up either by elongation or by compression of the rubber or like block.

It will be understood that the foregoing 55 details are given by way of example to indicate the nature of the invention and not to limit its scope and we may vary the steel or other metal fittings to which the block is directly bonded depending on the 60 nature or construction of apparatus in which the rope or cable is embodied, the purpose for which the same is to be employed or any practical requirements that may have to be fulfilled. 65

Dated this 4th day of April, 1944.

MARKS & CLERK.

COMPLETE SPECIFICATION

Improved Means for Absorbing Shocks in Wire Ropes or Cables

We, ALFRED PERCY MAYSON BENNETT, of 306, Latymer Court, London, W.6, British Subject, and JOHN MOWLENE & COMPANY LIMITED, a company incorporated 70 under the laws of Great Britain, of 91, Ebury Bridge Road, London, S.W.1, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and 75 ascertained in and by the following statement:—

This invention relates to means for taking up shocks in the wire ropes or cables of excavating, hoisting or other like 80 machines in order to lengthen the life of

the ropes or cables by safeguarding them against the detrimental effects of such shocks.

The invention has particular reference to resilient shock-absorbing or "snatch 85 relieving" devices of the kind comprising an elastic mass adapted to be inserted in the length of the rope or cable either at one end thereof or of some intermediate point in the length so as to be stressed 90 when tension is applied to the rope or cable.

The present invention consists in a shock-absorbing device of the kind referred to comprising a block of rubber or rubber 95

composition, the opposite faces of which are directly bonded to steel or other metal eyes, sockets, or other fittings or to plates rigidly secured to said fittings which are adapted to be secured to the rope or cable or to the rope or cable and part to be operated thereby. The accompanying drawings illustrate one convenient form of device in accordance with the invention.

10. Figure 1 is a side elevation.  
11. Figure 2 is a sectional plan.  
12. Figure 3 is an end elevation.

In carrying our invention into effect in one convenient manner we take a block *a* of rubber or rubber composition of any suitable length and of circular rectangular or other suitable shape in cross section and one face of this we bond direct to a metal fitting to which the rope or cable 15 to be protected against shock is anchored in any suitable manner. The opposite face of the block is directly bonded to a second fitting which is directly or indirectly (for example through a further length of 20 rope or cable) connected to the cage, shovel, or other part to be operated by the rope or cable.

In the particular construction illustrated the block *a* has its opposite faces directly 30 bonded to metal plates *b*, *c*, having the studs *d*, *e* respectively secured thereto or formed therewith and by means of which the block *a* may be firmly secured between two stirrups *f*, *g*, incorporated in the cable 35 system so that any "snatch" on the cable will be taken up by the compression of the block *a*.

It will be understood that in this particular construction each stirrup constitutes the fitting within the general 40 description given above.

The block *a* may be of the same cross-sectional area throughout its length or as shown in the drawings the cross-sectional 45 area may vary as, for example, the smallest cross-sectional area may be at the middle of the length of the block and the area may gradually increase from this point towards each end.

50. Preferably as shown in the drawings the inner edges of the stirrups *f*, *g*, are radiussed as shown at *f*<sup>1</sup>, *g*<sup>1</sup>, respectively, so as to provide slots or openings *h* into which the material of the block *a* may flow under 55 compression.

Although in the construction illustrated in the drawings the block *a* is so located

that it is compressed when tension is applied to the cable, it will be clear that 60 the opposite faces of the block may be bonded between the outer faces of the fittings so that the shock will be taken up by elongation of the block (instead of by compression) when tension is applied to 65 the cable.

It will be understood that we may vary the construction of the steel or other metal fittings to which the block is directly bonded depending on the nature or 70 construction of apparatus in which the rope or cable is embodied, the purpose for which the same is to be employed or any practical requirements that may have to be fulfilled.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A shock-absorbing device of the kind referred to comprising a block of rubber or rubber composition, the opposite faces of which are directly bonded to steel or other metal eyes, sockets, or other 80 fittings or to plates rigidly secured to said fittings which are adapted to be secured to the rope or cable or to the rope or cable and part to be operated thereby.

2. A shock-absorbing device according 90 to claim 1 in which each of the fittings comprises a stirrup having a plate secured thereto or formed therewith, the block having its opposite faces directly bonded to said plates.

3. A shock-absorbing device according to claim 2 in which the inner edges of the stirrups adjacent the block are radiussed so as to provide openings into which the material of the block may flow under 100 compression.

4. A shock-absorbing device according to any preceding claim in which the cross-section of the block varies from a minimum at the middle of its length to 105 a maximum at each end.

5. An improved shock-absorbing device of the kind referred to substantially as described with reference to the accompanying drawings.

Dated this 4th day of April, 1945.

MARKS & CLERK.

*[This Drawing is a reproduction of the Original on a reduced scale.]*

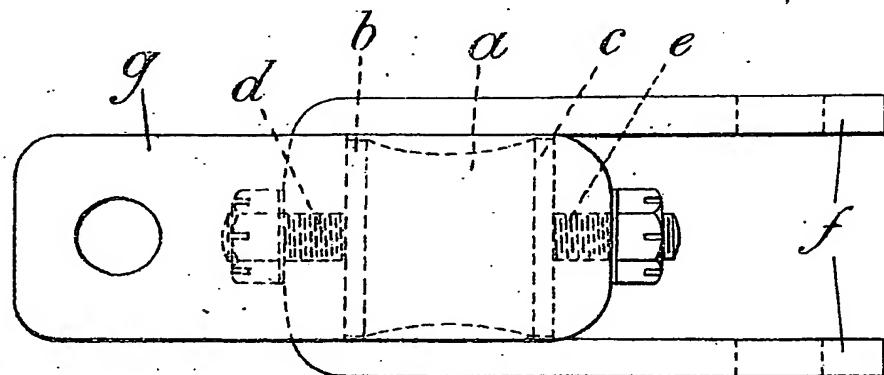


Fig. 1.

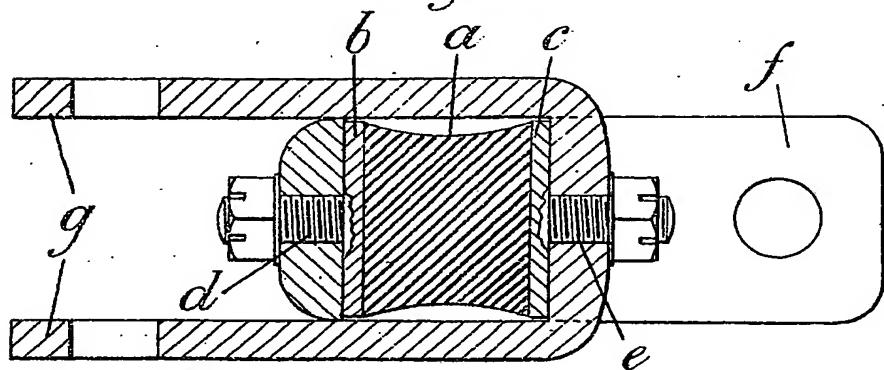


Fig. 2.

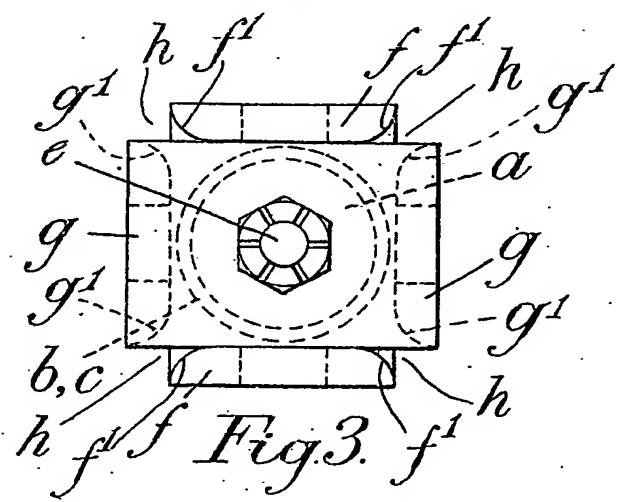


Fig. 3.

